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ABSTRACT

Teaching reading should not be a matter of transmitting stored information, concepts, and patterns of thinking into the learner's head; rather, it should be a way of working with children to facilitate the acquisition of information and the creation of meaningful ideas about the world in which they live. Teachers should examine certain questions about skills in learning, such as the following: What are the skills involved in learning something well? What skills are needed for discovery learning? Is it good or bad for a student to learn by discovery? What skills do creative and inquiring students or people in general possess? Teachers and the school should be dealing with non-trivial facts, those which have widespread implications, those which children can use to modify diverse aspects of their idealistic world. The development of a quality reading program within a school must deal with such problem areas as educational change, communication patterns within the school system, personality conflicts, goal perception differences, role ambiguity, power struggles, and organization disequilibrium. (WR)

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METHODS, MATERIALS AND TECHNIQUES FOR DEVELOPING COGNITIVE SKILLS AT THE EARLY CHILDHOOD LEVEL

Teaching reading should not be a matter of transmitting stored information, concepts, and patterns of thinking into the learner's head; rather, it should be a way of working with children to facilitate acquisition of information and the creation of meaningful ideas about the world in which children live. Generally children show strong developmental and personality differences at all ages, but in teaching reading we tend to project the concept of a standardized beginner who will respond exactly as we would wish. Many problems for the child and his adult well-wishers spring from this common misconception. Teachers must develop models of cognitive principles which can be functional in providing conceptions of how children perceive and solve classroom learning problems. In this way, classroom teachers are able to examine ways in which the child's mind functions in the process of gaining and creating knowledge and, therefore, is in a better position to determine what instructional methods, materials, and techniques are helpful or will interfere with the cognitive processes of children.

Roma Gans, mentions in his book Common Sense in Teaching Reading some fundamental qualities a child may acquire in early years to help him master the skill of reading. These are: (1) an eagerness to be independent rather than spoon-fed and coddled; (2) an unquenchable zest to explore the world around him; (3) the courage to try himself at new skills and to experience success and some defeats; (4) the enjoyment of being with others and learning from them.

Therefore teachers should remember that in mental functioning, in

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the human mind, thinking is a continuous process. The mind of a child, in regards to this process, is no different from that of the adult. Their brain is continuously processing information. The problem every teacher must face is how to take into account and work with the continual information processing that is going on in the minds of their students. A teacher must also consider how a child's past learning experiences influence the way he views new concepts and problems. If a teacher fails to understand his students' cognitive frame of reference, his teaching will hinder more than help learning. For example: A normal healthy youngster grows in gaining independence and the ability to look after himself. Much of the self-confidence needed for healthy growth is acquired by children in their family life through the aid and encouragement of parents, brothers, and sisters. A shy child may need to be encouraged to venture forth for vigorous growth. A youngster must remain eager for new experiences.

A child needs to maintain self confidence in order to develop his real and fullest potentiality in tackling new ventures and success. The courage to think boldly and with imagination, so essential to powerful constructive living, demands that the child be unafraid, confident, and courageous. Jerome S. Bruner makes this statement in reference to children's thinking:

"It seems likely that effective intuitive thinking is fostered by the development of self-confidence and courage in students. A person who thinks intuitively may often achieve correct solutions, but he may also be proved wrong when he checks or when others check on him. Such thinking, therefore, requires a willingness to make honest mistakes in the effort to solve problems. One who is insecure, who lacks confidence in himself, may be unwilling to run such risks."

The need to place greater emphasis on learning how to learn is being recognized. The trend in education is toward self-directed learning. There are a limited number of concepts that are taught directly that have to be chosen for their long--range value in helping students to understand the underlying ideas of broad fields of knowledge. Teaching aimed at these purposes is largely based on the processes of discovery, inquiry, and creativity. These are ways of solving problems and creating knowledge. Jerome S. Bruner examines in his book, The Act of Discovery, major issues involved in discovery learning. He defines discovery in this way: "a matter of rearranging or transforming evidence in such a way that one is enabled to go beyond the evidence so reassembled to additional new insights." J. P. Guilford is oriented in his book, Factors That Aid and Hinder Creativity, toward looking for the full potential of the human brain rather than its limitations. Guilford discusses traits that promote creativity and cites studies illustrating his theories. He places emphasis on the relationship of creativity and intelligence, and ways to implement his ideas in the classroom.

Three interrelated topics are prescribed here for study and examination at this point, for the benefit of the classroom teacher, in selecting methods materials and techniques in developing cognitive skills at the early childhood level:

1. The nature of thinking provides for a basic examination of how the young child's mind works.
2. Discovery, inquiry, and creativity, focuses on the processes by which a child makes discoveries, solve problems, and create new ideas.
3. Skills in learning are concerned here with determining the

cognitive skills children need for different kinds of learning.

Factors, according to Holt, which contribute to the teacher's understanding of the nature of thinking are for the teacher to examine his or her mind when thinking through problems or listening to the explanation of others. Holt's notion is that teachers should put themselves in the role of a child learning new concepts. Piaget's theory of cognitive development is the processes of the mind that Piaget uses to explain learning, assimilation and accommodation and the cognitive functioning of children at different stages of development. Miller, Galanter, and Pribram regard the function of thinking as more than simply a reflex. They present ways of how the mind processes incoming information by testing data against what is already known. They explain how the mind deals with incoming information which involves (1) a test of readiness of the brain to accept the input, (2) an operation that seeks to match the test with prior experience, (3) a retest to see whether a match between incoming information and prior experience has been accomplished, before (4) the brain exists from control of that data. Suchman offers some useful information on general cognitive processes. He presents ideals about the development of thinking ability and the varied styles of thinking among children.

What then are the kinds of competence that contribute to effective thinking and learning? This can be a way of approaching an inquiry into cognitive functioning. Teachers should examine certain questions about skills in learning such as:

1. What are the skills involved in learning something well?
2. What skills are needed for discovery learning?

3. Is it good or bad for a student to learn by discovery?

4. What skills do creative and inquiring students or people in general possess?

Richard F. Crutchfield's article on "Nuturing the Cognitive Skills of Productive Thinking" capitilizes on the development of the skills, of acquiring understanding, of creating, and of using knowledge. He relates to them as higher - level skills of productive thinking and problem solving and not skills which can be counted on to emerge automatically from the simpler cognitive skills. He has the assumption that they are not just the additive and products of simpler cognitive processes. Quite the contrary, rather, productive thinking and problem solving are complex processes which require direct attention in and of themselves.

It is true, however, that the simplest cognitive skills have to do with the acquisition of information and a major part of the student's schoolwork in the traditional educational setting is the exercise of this function: He memorizes facts, and he regurgitates the facts on command. There would seem to be nothing involved in the way of productive thinking here. Indeed, the only "problem" to be solved in this kind of schoolwork seems to be that of passing the test of otherwise satisfying the teacher that the facts have been learned.

What one needs to understand at this point, is the acquisition process. Rather than being viewed mainly as one of sheer intake and output of modified information, it should properly be thought of in quite a different way - as a process of assimilation, in which incoming information must be operated upon by the individual, restructured and transformed and fitted meaningfully into his prexisting conceptual world. It is this problem of assimilating the new information into what is already

there which requires productive thinking by the individual whenever he learns subject-matter content. Reformulated in this way, it becomes clear that the requisite cognitive skills for assimilating information are by no means automatically acquired, rather, they are, indeed, essentially creative. For the problem posed by the intake of a given piece of information is unique to each individual. He must seek to assimilate the new information in a way which successfully fits it into and reshapes his own conceptual world. And since no two individuals possess an identical conceptual world, his solution must be to some degree distinctive and innovative. Thus a student must make the fact his own. Therefore in becoming "part of himself," the fact has necessarily been changed in some degree. It is no longer the "same" fact that it was, nor is it now the "same" fact that exists in other students' minds.

What is customarily done in the classroom is the routine acquiring of trivial facts, or of potentially significant facts that are taught and learned in a trivializing fashion. What teachers and the school should be dealing with, instead, are clearly non-trivial facts - those which have widespread implications, those which can (if the student will but think) correct with and modify many diverse parts of his idealistical world. And what teachers and the school should be concerned with are the presentation of such potentially significant facts in a trivializing way. Each significant piece of information, properly presented, constitutes a problem of assimilation. The student should be brought to attack the problem - to engage in productive thinking about it, to analyze the information, to consider its many implications, and to see how and where it fits, or fails to fit, with his other knowledge. Though the necessary hard elaborative cognitive work can be aided by the teacher and facilitated

by class discussions, it must in the last analysis be done by the individual student himself.

It is apparent that schools are on the threshold of a long period of innovation and change. Reading teachers and other practicing educators must come to accept this fact, but they must be incorporated cautiously and evaluated continuously to insure that they have relevance and value in dealing with both the specific problem and the total school.

The attempt to develop a quality reading program within a school throws the reading consultant or whoever undertakes this challenge into such problem areas as educational change, communication patterns within the school system, personality conflicts, goal perception differences, role ambiguity, power struggles, and organizational disequilibrium. Therefore, the structure of the organization and the patterns of administrative behavior have a direct and strong impact on the direction of the developmental reading program.

It is clear that administrators are crucial to the introduction of innovations. Administrative policy and in-service education must support innovative activities if present efforts to improve instructional practice in reading as well as in other areas are not to fail. Teachers' legitimate roles in the decision-making and creative processes must be recognized. If teachers and administrators accept new leadership roles, find ways to work through the complex interrelationships involved, and use a sound rationale for introducing and evaluating change, the future of public education generally, and of reading specifically, will be exciting indeed.

What then, if any, are the newer innovative organizational classroom structures that seem to be geared toward the effective training

of cognitive skills at the early childhood level?

Accountiability Programs

Competency based - Programs

Performance Based Programs

Non Gradedness. For individually prescribed instruction

Team Teaching Programs

The Language Experience Approach

Follow Through Programs

The Open Classroom Approach

Programmed Instructions

All of these patterns of instructions, if organized, planned and implemented well, place major emphasis on self-motivation, creativity, learning as "play" and the child is considered as the "natural" learner. Theoretically there is no predetermined content, but through performances the student is able to think through problems and develop his own cognitive skills.

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